



PROJECT 25 EXPLANATORY ADDENDA

The FY 2007 SAFECOM *Recommended Federal Grant Guidance* states that grant applicants using funds to purchase Project 25 (P25) equipment must obtain certain documented evidence from the manufacturer. The evidence should show that the equipment has been tested to, and has passed, all of the applicable, published, and normative P25 compliance assessment test procedures for performance, conformance, and interoperability. These procedures are defined in this document. Applicable test procedures include tests of all mandatory features and standard options installed in the product contemplated for purchase. The compliance assessment requirements for P25 are listed below.

Compliance Assessment Requirements for P25 Equipment

1. Subscriber Units

1.1. Performance. Subscriber units shall be tested in accordance with the following sections of ANSI/TIA-102.CAAA-A¹, and shall meet or exceed all of the minimal performance recommendations (or Class B requirements where applicable) as specified in ANSI/TIA-102.CAAB-A.²

§2.1.4 Reference Sensitivity

§2.1.5 Faded Reference Sensitivity

§2.1.6 Signal Delay Spread Capability

§2.1.7 Adjacent Channel Rejection

§2.1.8 Co-Channel Rejection

§2.1.9 Spurious Response Rejection

§2.1.10 Intermodulation Rejection

§2.1.11 Signal Displacement Bandwidth

§2.1.17 Late Entry Unsilence Delay

§2.1.18 Receiver Throughput Delay

§2.2.8 Unwanted Emissions: Adjacent Channel Power Ratio

§2.2.12 Transmitter Power and Encoder Attack Time

§2.2.14 Transmitter Throughput Delay

§2.2.15 Frequency Deviation for C4FM

§2.2.16 Modulation Fidelity

1.2. Conformance

1.2.1. Basic Conventional Mode Operation

No tests defined or required

1.2.2. Advanced Conventional Mode Operation

No tests defined or required

1.2.3. Basic Trunked Mode Operation

No tests defined or required

1.2.4. Advanced Trunked Mode Operation

No tests defined or required

1.3. Interoperability

1.3.1. Conventional Mode Operation

No tests defined or required

¹ ANSI/TIA-102.CAAA-A, *Digital C4FM/CQPSK Transceiver Measurement Methods*, November 2002.

² ANSI/TIA-102.CAAB-A, *Land Mobile Radio Transceiver Performance Recommendations – Project 25 – Digital Radio Technology, C4FM/CQPSK Modulation*, September 2002.



- 1.3.2. Trunked Mode Operation. P25 subscriber units capable of trunked mode operation shall be interoperability tested in accordance with the Project 25 Interim Standard.³ Subscriber units must be tested against at least a majority, i.e. more than 50%, of the commercially available, band compatible trunked systems (excluding trunked systems produced by the manufacturer of the subscriber unit under test).
2. Base stations/repeaters
 - 2.1. Performance. Base station radios and repeaters units shall be tested in accordance with the following sections of ANSI/TIA-102.CAAA-A¹ and shall meet or exceed all of the minimal performance recommendations (or Class B requirements where applicable) as specified in ANSI/TIA-102.CAAB-A.²
 - §2.1.4 Reference Sensitivity
 - §2.1.5 Faded Reference Sensitivity
 - §2.1.7 Adjacent Channel Rejection
 - §2.1.8 Co-Channel Rejection
 - §2.1.9 Spurious Response Rejection
 - §2.1.10 Intermodulation Rejection
 - §2.1.11 Signal Displacement Bandwidth
 - §2.1.18 Receiver Throughput Delay
 - §2.2.8 Unwanted Emissions: Adjacent Channel Power Ratio
 - §2.2.15 Frequency Deviation for C4FM
 - §2.2.16 Modulation Fidelity
 - 2.2. Conformance
 - 2.2.1. Basic Conventional Mode Operation
No tests defined or required
 - 2.2.2. Advanced Conventional Mode Operation
No tests defined or required
 - 2.2.3. Basic Trunked Mode Operation
No tests defined or required
 - 2.2.4. Advanced Trunked Mode Operation
No tests defined or required
 - 2.3. Interoperability
 - 2.3.1. Conventional Mode Operation
No tests defined or required
 - 2.3.2. Trunked Mode Operation. P25 trunked infrastructure shall be interoperability tested in accordance with the P25 Interim Standard.³ Trunked infrastructure must be tested against at least a majority, namely, more than 50 percent, of the commercially available, band-compatible subscriber units. (This excludes subscriber units produced by the manufacturer of the trunked system under test). Subscriber units which share similar hardware or common software/firmware shall count as one compatible test subject. For instance, a radio model with three keypad configurations would count as one test subject.

³ Project 25 Interim Standard, *Interoperability Testing for Voice Operation in Trunked Systems*, published as TIA-102.CABC.